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## NOTICE OF ALLOWANCE AND FEE(S) DUE

27896 7590 03/24/2009

EDELL, SHAPIRO & FINNAN, LLC  
1901 RESEARCH BOULEVARD  
SUITE 400  
ROCKVILLE, MD 20850

EXAMINER

DUONG, THOMAS

ART UNIT

PAPER NUMBER

2445

DATE MAILED: 03/24/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/779,411

02/13/2004

Ganesh Sundaram

0370.0701C

7770

TITLE OF INVENTION: METHOD AND SYSTEM FOR EFFICIENT LINK RECOVERY FOR FIBRE CHANNEL OVER SONET/SDH TRANSPORT PATH

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/24/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
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or Fax (571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

27896 7590 03/24/2009

**EDELL, SHAPIRO & FINNAN, LLC**  
1901 RESEARCH BOULEVARD  
SUITE 400  
ROCKVILLE, MD 20850

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/779,411 02/13/2004 Ganesh Sundaram 0370.0701C 7770

**TITLE OF INVENTION:** METHOD AND SYSTEM FOR EFFICIENT LINK RECOVERY FOR FIBRE CHANNEL OVER SONET/SDH TRANSPORT PATH

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 06/24/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
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DUONG, THOMAS 2445 709-224000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

**NOTE:** The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,411	02/13/2004	Ganesh Sundaram	0370.0701C	7770
27896	7590	03/24/2009	EXAMINER	
EDEL, SHAPIRO & FINNAN, LLC 1901 RESEARCH BOULEVARD SUITE 400 ROCKVILLE, MD 20850			DUONG, THOMAS	
			ART UNIT	PAPER NUMBER
			2445	
DATE MAILED: 03/24/2009				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1061 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1061 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/779,411	SUNDARAM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thomas Duong	2445	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to March 9, 2009.
2. ☒ The allowed claim(s) is/are 1, 3-10, 12-18, and 20-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| <p>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date ____</p> <p>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</p> | <p>5. <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date ____.</p> <p>7. <input type="checkbox"/> Examiner's Amendment/Comment</p> <p>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</p> <p>9. <input type="checkbox"/> Other ____.</p> |
|---|---|

## **DETAILED ACTION**

### ***Response to Arguments***

1. The Applicants' arguments and amendments filed on March 9, 2009 have been fully considered and are persuasive.

### ***Allowable Subject Matter***

2. *Claims 1, 3-10, 12-18, and 20-24* are allowed. The claims indicated include limitations that the prior arts of record do not appear to teach or render obvious, hence they are allowed.
3. The following is an examiner's statement of reasons for allowance:  
  
As presented in the previous Office Action, Smith et al. (US 20030074449A1) discloses, *"Fibre Channel uses 8B/10B line encoding to improve the transmission characteristics of the link. Within the 8B/10B line encoding scheme, certain basic signals, often termed "ordered sets" are defined which identify frame boundaries, transmit primitive function requests, and maintain proper link transmission characteristics during periods of inactivity. The term "ordered set" implies in this context a series of data/control characters which, when arranged in a particular order, represent a predefined meaning within the given protocol"* (Smith, para.123). Hence, Smith teaches of maintaining proper link transmission characteristics (i.e., Applicants' performing link initialization) during periods of inactivity (i.e., Applicants' indicative of non-operation) using the "ordered sets" (i.e., Applicants' ordered sets) within the 8B/10B line encoding scheme.

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Smith discloses, *“Advantageously, the invention uses the buffer credit link flow control mechanism of Fibre Channel, and ESCON, to ensure that no buffer overflow occurs when handing-off between the different client signal data rates and SONET/SDH payload rates”* (Smith, para.94). Hence, Smith teaches of utilizing the buffer credit link flow control mechanism of the Fibre Channel.

Also presented in the previous Office Action, Holness et al. (US 20040114924A1) discloses, *“Upon detecting a network adaptation or mapping failure (e.g., the loss of GFP frame delineation), an ESS transmits an SRF signal upstream to the far-end ESS. The near-end ESS then periodically generates SRF signals destined to the far-end ESS. Upon receiving an SRF signal, the far-end ESS raises an alarm and performs procedures to shut down the customer link. When the network adaptation or mapping failure clears, the near-end ESS stops sending SRF signals to the far-end ESS. As a result, the near-end and far-end ESS re-establish their respective customer links”* (Holness, para.71). Hence, Holness teaches detecting (i.e., Applicants’ detecting) a network adaptation or mapping failure (i.e., Applicants’ interruption) in the transport networks based on synchronous optical network (SONET) or synchronous digital hierarchy (SDH) (i.e., Applicants’ SONET/SDH transport network) through the loss of GFP frame delineation (i.e., Applicants’ GFP loss of synchronization).

However, the prior arts of record fail to teach or suggest individually or in combination as stated in the independent claims for *“polling a GFP synchronization status from said first transport interface to determine whether a GFP loss of synchronization has occurred at said first transport interface, wherein a GFP loss of synchronization signifies an interruption in said SONET/SDH transport network; transmitting a stream of Ordered Sets from said first transport interface to said first Fibre Channel port in response to*

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*detecting a GFP loss of synchronization, the stream of Ordered Sets indicating to said first Fibre Channel port an interruption in said SONET/SDH transport network between said first and second transport interfaces; and performing link initialization and buffer credit recovery procedures in the first Fibre Channel port in response to receiving the stream of Ordered Sets from the first transport interface to recover the link with said second Fibre Channel port” and in combination with other limitations as set forth in the independent claims, as well as Applicants’ arguments presented on pages 7-11 of the Amendment filed on March 9, 2009. In the fore mentioned amendment, the Applicants argued, “However, the link recovery mechanism set forth in Applicant’s claims is completely absent from Smith’s disclosure. Specifically, Smith merely explains that the various types of ordered sets exist and can be sent between Fibre channel ports at end points to improve or maintain the transmission characteristics of the Fibre Channel link. Smith does not disclose or suggest that a transport interface can transmit an ordered set, much less a stream of ordered sets as required by the claims. Moreover, Smith does not disclose or suggest that a transport interface transmits an ordered set to the Fibre Channel port it connects to the SONET/SDH network. Smith refers to Fibre Channel ordered sets only in the context of signaling between endpoint Fibre Channel ports. The claims require using ordered sets in a manner not contemplated by Smith, i.e., for conveying information from a transport interface to a Fibre Channel port connected to the network by the transport interface” (pg.9).*

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

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***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Duong whose telephone number is 571/272-3911. The examiner can normally be reached on M-F 7:30AM - 4:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B. Burgess can be reached on 571/272-3949. The fax phone numbers for the organization where this application or proceeding is assigned are 571/273-8300 for regular communications and 571/273-8300 for After Final communications.

/Thomas Duong/

Patent Examiner, Art Unit 2445

*March 20, 2009*

/Patrice Winder/

Primary Examiner, Art Unit 2445